

# MARK D. SCHEUERELL

## *Curriculum Vitae*

### **CONTACT**

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### **EDUCATION**

Ph.D. 2002 Zoology, University of Washington, Seattle, Washington  
M.S. 1996 Fisheries and Aquatic Science, Cornell University, Ithaca, New York  
B.S. 1991 Zoology, University of Wisconsin, Madison, Wisconsin

### **PROFESSIONAL EXPERIENCE**

2007 - present Affiliate Assistant Professor, School of Aquatic and Fishery Sciences, University of Washington, Seattle, Washington  
2003 - present Research Fisheries Biologist, NOAA Fisheries Service, Northwest Fisheries Science Center, Seattle, Washington  
2002 - 2003 Post-doctoral Fellow, NOAA Fisheries Service, Northwest Fisheries Science Center, and School of Aquatic and Fishery Sciences, University of Washington, Seattle, Washington  
2000 - 2002 Graduate Research Assistant, Department of Zoology, University of Washington, Seattle, Washington  
1999 Graduate Fellow in Mathematical Biology, College of Arts and Sciences, University of Washington, Seattle, Washington  
1997 - 1999 Graduate Research Assistant, Department of Zoology, University of Washington, Seattle, Washington  
1996 - 1997 Research Coordinator, University of Massachusetts and Massachusetts Audubon Society, Amherst, Massachusetts  
1993 - 1995 Graduate Research Assistant, Department of Natural Resources, Cornell University, Ithaca, New York  
1992 - 1993 Research Technician, Cornell University Biological Field Station, Bridgeport, New York  
1991 - 1992 Associate Research Specialist, Center for Limnology, University of Wisconsin, Madison, Wisconsin

### **TEACHING EXPERIENCE**

2005 - present Visiting Instructor, University of Washington, Seattle, Washington: *Theory and Application of Stable Isotopes in Ecology*  
1997 - present Guest Lecturer, University of Washington, Seattle, Washington: *Limnology, Mathematical Biology, Conservation and Management of Aquatic Resources, Fisheries Stock Assessment*  
2006 Undergraduate Research Mentor, *Ernest F. Hollings Undergraduate Scholarship Program*, National Oceanic and Atmospheric Administration, Seattle, Washington  
1999 - 2002 Undergraduate Research Mentor, *Biology Program*, University of Washington, Seattle, Washington  
1997 - 2000 Teaching Assistant, *Biology Program*, University of Washington, Seattle, Washington: *Limnology, Vertebrate Zoology, Comparative Vertebrate Anatomy*  
1993 - 1995 Undergraduate Research Mentor, *Department of Natural Resources*, Cornell University, Ithaca, New York

**FELLOWSHIPS**

- National Research Council Postdoctoral Research Associateship: *Estimating the relative roles of the environment and density-dependence in controlling Pacific salmon populations*. (2003: \$42,500)
- Ford Foundation Fellowship in Environmental Science: *The impact of lake shoreline development on spatial processes in lake food webs*. (2002: \$10,000)
- NSF Graduate Research Training Grant in Mathematical Biology: *Integrating spatial dynamics and foraging models: the effect of scale on the functional response of fish*. (1999: \$30,000)
- Electric Power Research Institute Fellowship in Fish Population Biology: *Spatial dynamics of fish populations: implications for predator-prey interactions*. (1994-1995: \$44,000)

**AWARDS & HONORS**

- Presidential Early Career Award for Scientists and Engineers, White House Office of Science and Technology Policy, Washington, District of Columbia (2006)
- Selection to the American Society of Limnology and Oceanography DIALOG V Symposium, Bermuda Biological Station for Research, The Bermuda Islands (2003)
- Best Student Presentation, American Fisheries Society Annual Meeting, Alaska Chapter, Girdwood, Alaska (2002)
- Best Student Presentation, Ecological Society of America Annual Meeting, Aquatic Section, Madison, Wisconsin (2001)
- Ingrith Deyrup-Olsen Award for Distinguished Teaching Assistant, University of Washington, Department of Zoology, Seattle, Washington (2000)
- Richard C. Snyder Award for Vertebrate Zoology Research, University of Washington, Department of Zoology, Seattle, Washington (1999)

**PROFESSIONAL ACTIVITIES****Society membership**

*American Fisheries Society*

2006 Subcommittee Chair, Mercer Patriarche North American Journal of Fisheries Management

Best Paper Award

*American Society for Limnology and Oceanography*

*Ecological Society of America*

2007-2008 Secretary of Aquatic Ecology Section

*Society for Conservation Biology*

*Conservation Science Institute* (Fellow)

**Editorial responsibilities**

Assistant editor

*Ecological Research*

Book reviewer

*Trends in Ecology and Evolution*

Manuscript reviewer

*Ecological Applications*

*Ecological Modelling*

*Ecology*

*Ecology and Society*

*Ecology Letters*

*Ecosystems*

*Oecologia*

*Frontiers in Ecology and the Environment*

*Proceedings of the National Academy of Sciences*

*Limnology & Oceanography*

*Canadian Journal of Fisheries and Aquatic Sciences*

*Canadian Journal of Zoology*

*North American Journal of Fisheries Management*

*Transactions of the American Fisheries Society*

**PEER-REVIEWED PUBLICATIONS**

- Waples RS, Zabel RW, **Scheuerell MD**, Sanderson BL. 2007. Evolutionary responses by native species to major anthropogenic changes to their ecosystems: Pacific salmon in the Columbia River hydropower system. *Molecular Ecology* doi: 10.1111/j.1365-294X.2007.03510.x
- Scheuerell MD**, Moore JW, Schindler DE, Harvey CJ. 2007. Varying effects of anadromous sockeye salmon on the trophic ecology of two species of resident salmonids in southwest Alaska. *Freshwater Biology* 52: 1944-1956
- Hampton SE, **Scheuerell MD**, Schindler DE. 2006. Coalescence in the Lake Washington story: interaction strengths in a planktonic food web. *Limnology and Oceanography* 51: 2042-2051
- Scheuerell MD**, Hilborn R, Ruckelshaus MH, Bartz KK, Lagueur KM, Hass AD, Rawson K. 2006. The Shiraz model: a tool for incorporating anthropogenic effects and fish-habitat relationships in conservation planning. *Canadian Journal of Fisheries and Aquatic Sciences* 63: 1596-1607
- Bartz KK, Lagueur KM, **Scheuerell MD**, Beechie TJ, Ruckelshaus MH. 2006. Translating restoration scenarios into habitat conditions: an initial step in evaluating recovery strategies for Chinook salmon (*Oncorhynchus tshawytscha*). *Canadian Journal of Fisheries and Aquatic Sciences* 63: 1578-1595
- Zabel RW, **Scheuerell MD**, McClure MM, Williams JG. 2006. The interplay between climate variability and density dependence in the population viability of Chinook salmon. *Conservation Biology* 20: 190-200
- Scheuerell JM, Schindler DE, **Scheuerell MD**, Fresh KL, Litt AH, Shepherd JA, Sibley T. 2005. Temporal dynamics in foraging behavior of a pelagic predator. *Canadian Journal of Fisheries and Aquatic Sciences* 62: 2494-2501
- Scheuerell MD** and Williams JG. 2005. Forecasting climate-induced changes in the survival of Snake River spring/summer Chinook salmon. *Fisheries Oceanography* 14: 448-457
- Scheuerell MD**. 2005. The influence of juvenile size on the age at maturity of individually-marked wild Chinook salmon. *Transactions of the American Fisheries Society* 134: 999-1004
- Romare P, Schindler DE, **Scheuerell MD**, Scheuerell JM, Litt AH, Shepherd JH. 2005. Variation in spatial and temporal gradients in zooplankton spring development: the effect of climatic factors. *Freshwater Biology* 50: 1007-1021
- Scheuerell MD**, Levin PS, Zabel RW, Williams JG, Sanderson BL. 2005. A new perspective on the importance of marine-derived nutrients to threatened stocks of Pacific salmon (*Oncorhynchus* sp.). *Canadian Journal of Fisheries and Aquatic Sciences* 62: 961-964
- Schindler DE, Rogers DE, **Scheuerell MD**, Abrey CA. 2005. Effects of changing climate on zooplankton and juvenile sockeye salmon growth in southwestern Alaska. *Ecology* 86: 198-209
- Scheuerell MD**. 2004. Quantifying aggregation and association in three dimensional landscapes. *Ecology* 85: 2332-2340
- Beauchamp DA, Sergeant CJ, Mazur MM, Scheuerell JM, Schindler DE, **Scheuerell MD**, Fresh KL, Seiler DE, Quinn TP. 2004. Spatial-temporal dynamics of early feeding demand and food supply by sockeye salmon fry in Lake Washington. *Transactions of the American Fisheries Society* 133: 1014-1032
- Scheuerell MD** and Schindler DE. 2004. Changes in the spatial distribution of fishes in lakes along a residential development gradient. *Ecosystems* 7: 98-106
- Moore JW, Schindler DE, **Scheuerell MD**. 2004. Disturbance of freshwater habitats by anadromous salmon in Alaska. *Oecologia* 139: 298-308
- <sup>1</sup>Hilborn R, Branch TA, Ernst B, Magnusson A, Minte-Vera CV, **Scheuerell MD**, Valero JL. 2003. State of the world's fisheries. *Annual Review of Environment and Resources* 23: 359-399
- Scheuerell MD**, Schindler DE. 2003. Diel vertical migration by juvenile sockeye salmon: empirical evidence for the antipredation window. *Ecology* 84: 1713-1720
- Schindler DE, **Scheuerell MD**, Moore JW, Gende SM, Francis TB, Palen WJ. 2003. Pacific salmon and the ecology of coastal ecosystems. *Frontiers in Ecology and the Environment* 1: 31-37
- Moore JW, Schindler DE, **Scheuerell MD**, Smith D, Frodge J. 2003. Lake eutrophication at the urban fringe. *Ambio* 32: 13-18

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<sup>1</sup>All junior authors listed in alphabetical order.

- Scheuerell MD**, Schindler DE, Litt AH, Edmondson WT. 2002. Environmental and algal forcing of *Daphnia* production dynamics. *Limnology & Oceanography* 47: 1477-1485
- Schindler DE and **Scheuerell MD**. 2002. Habitat coupling in lake ecosystems. *Oikos* 98: 177-189
- Rudstam LG, Van de Valk A, **Scheuerell MD**. 2002. Comparison of acoustic and standard estimates of larval fish abundance in Oneida Lake, New York. *Fisheries Research* 57: 145-154
- Delany MF, Lockley TC, Pranty B, **Scheuerell MD**. 2000. Stomach contents of two nestling Florida Grasshopper Sparrows. *Florida Field Naturalist* 28: 75-77
- Perkins DW, Vickery PD, Dean TF, **Scheuerell MD**. 1998. Nesting records and reproductive success of Florida Grasshopper Sparrows (*Ammodramus savannarum floridanus*). *Florida Field Naturalist* 26: 7-17.
- Pranty B and **Scheuerell MD**. 1997. First summer record of the Henslow's Sparrow in Florida. *Florida Field Naturalist* 25: 64-66
- Mills EL, **Scheuerell MD**, Carlton JT, Strayer DL. 1997. Biological invasions in the Hudson River: an inventory and historical analysis. *Bulletin of the New York State Museum*: 57: 1-51
- Mills EL, Strayer DL, **Scheuerell MD**, Carlton JT. 1996. Exotic species in the Hudson River basin: a history of invasions and introductions. *Estuaries* 19: 814-823
- <sup>2</sup>He X, **Scheuerell MD**, Soranno PA, Wright RA. 1994. Recurrent response patterns of a zooplankton community to whole-lake fish manipulation. *Freshwater Biology* 32: 61-72

#### **BOOK CHAPTERS**

- Scheuerell MD** and Hilborn R. 2007. Estimating the freshwater component of essential fish habitat for Pacific salmon (*Oncorhynchus* spp.) with the Shiraz model. In: Knudsen EE, Michael H, Steward C (Eds.). *Pacific Salmon Environment and Life History Models: Advancing Science for Sustainable Salmon*. American Fisheries Society Symposium. Bethesda, Maryland.
- Fresh KL, Graeber W, Bartz KK, Davies J, Ruckelshaus MH, **Scheuerell MD**, Sanderson BL, Haas A. 2007. Incorporating spatial structure and diversity into the recovery of anadromous Pacific salmonid populations. In: Knudsen EE, Michael H, Steward C (Eds.). *Pacific Salmon Environment and Life History Models: Advancing Science for Sustainable Salmon*. American Fisheries Society Symposium. Bethesda, Maryland.
- Dini ML, Soranno PA, **Scheuerell MD**, Carpenter SR. 1993. Effects of predators and food supply on diel vertical migration of *Daphnia*. Pp. 153-171 In: Carpenter SR and Kitchell JF (Eds.) *The Trophic Cascade in Lakes*. Cambridge University Press, Cambridge, England.

#### **OTHER PUBLICATIONS**

- Scheuerell MD**. 2005. Mapping the status of Pacific salmon [book review]. *Trends in Ecology & Evolution* 20: 290-291
- Williams JG, Smith SG, Zabel RW, Muir WD, **Scheuerell MD**, Sandford BP, Marsh DM, McNatt R, Achord S. 2005. Effects of the Federal Columbia River Power System on salmonid populations. U.S. Dept. Commerce NOAA Technical Memorandum NMFS-NWFSC-63. 177 p.

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<sup>2</sup>“Scheuerell” misspelled on final printing.

**INVITED PRESENTATIONS**

- Scheuerell MD.** *Forecasting climate-induced shifts in the marine survival of salmon.* P/ICES Conference on New Frontiers in Marine Science, June 28, 2007, Baltimore, Maryland.
- Scheuerell MD.** *A sea change in the conservation of Pacific salmon: addressing climate variation and human impacts in an uncertain future.* School of Aquatic and Fisheries Sciences, University of Washington, November 30, 2006, Seattle, Washington.
- Scheuerell MD.** *Potential impacts of agriculture and habitat modification on Pacific Salmon.* Environmental Studies Planning Unit, The Evergreen State College, November 17, 2005, Olympia, Washington.
- Scheuerell MD.** *Interactive effects of climate change and human activities on the population dynamics of Pacific salmon.* Department of Fisheries and Wildlife, University of Idaho, October 11, 2005, Moscow, Idaho.
- Scheuerell MD** and Hilborn R. *Estimating essential fish habitat for Pacific salmon with the Shiraz model.* American Fisheries Society Annual Meeting, September 14, 2005, Anchorage, Alaska.
- Scheuerell MD.** *Anthropogenic causes of a state shift in a large river ecosystem: Chinook salmon and the Snake River basin* Department of Watershed Sciences, Utah State University, February 2, 2005, Logan, Utah.
- Scheuerell MD.** *The role of climate variability in structuring the population dynamics of Snake River spring/summer Chinook salmon.* Climate Impacts on Salmon Management and Recovery in the Pacific Northwest: The Columbia River Basin, September 21, 2004, Portland, Oregon.
- Scheuerell MD.** *Tipping the scales: balancing natural and human impacts on lakes.* American Society of Limnology and Oceanography DIALOG V Symposium, October 20, 2003, Bermuda Biological Station for Research.
- Scheuerell MD** and Hilborn R. *A model framework for relating life-history, freshwater habitat, and the ocean environment to Pacific salmon production and capacity.* American Fisheries Society Alaska Chapter Annual Meeting, October 22, 2002, Girdwood, Alaska.
- Scheuerell MD** and Schindler DE. *Impacts of lakeshore residential development on the spatial distribution and energy sources of fishes.* American Society of Limnology and Oceanography Aquatic Sciences Meeting, June 13, 2002, Victoria, British Columbia.